

with the prior art workflow development tools. Classification of nodes is not equivalent to or suggestive of classification of files.

Nowhere does Ghoneimy teach the classification of files to be attached or downloaded.

B) Ghoneimy paragraph [0204] describes a Client bean, a Java program module structure, where a developer can access all aspects of a workflow to build his own application/task. The ability for a developer to build an application/task is provided in many prior art workflow tools.

Ghoneimy does not teach or suggest the development of a bean to attach or download classified files or download a file based on classification.

C) Ghoneimy paragraph [0208] describes a tree of folders user interface where the user selects workflow steps to process. The tree of folders provides a classification of the user tasks.

Ghoneimy does not suggest or teach the use of the tree of folders to classify a file to direct attachment or download of the classified file at a workflow step.

Summary

Ghoneimy addresses the attachment and download of files in paragraphs [0130]-[0133] where a file extension is related to a program to process the file on download and in paragraph [0057] citing the use of an NT file system. Ghoneimy does not teach or suggest the use of workflow to process classified files or a workflow step to direct the attachment or download of a classified file. Ghoneimy does not teach or suggest the present invention.

Summary of the 113 Discussion

Claims 21-40 are rejected under 35 U.S.C. 103(a) as being anticipated by Ghoneimy et al U.S. Publication 20040078373 in view of Van Huben U.S. Patent 5,920,873.

Ghoneimy is an example of a prior art workflow and Van Huben is an example of a prior art PDM, Product Document Management system. The issues with both are discussed in the present invention specification paragraphs [0005] – [0009].

The power of workflow lies in the step by step system directed processing to implement a business process. Neither Ghoneimy nor Van Huben provide or suggest the implementation of a business process that includes the processing of classified files using workflow or provide or suggest the functions required in the workflow, route, and route screens to support these business processes. Ghoneimy does not provide the required functions and the complex PDM capabilities of Van Huben do not provide the directed file classification and directed file upload or download and thus, the PDM functions and screens are not applicable for a workflow for the users or systems that support these business processes that process classified files. Ghoneimy in view of Van Huben does not provide or suggest the present invention.

Discussion

1) Ghoneimy and the prior art workflow systems provide for file attachments for uploading files and downloading of stored files. Paragraph [0122]. These workflow systems only provide for assigning the file type, e.g. .doc, .txt, .csv; by the file name extension so the appropriate program to read the file is invoked when the file is downloaded. Paragraph [0130] – [0133]. Ghoneimy does not provide a file classification and an upload/download indicator for a classified file for a workflow step as described for the present invention.

Van Huben and prior art PDM systems provide extensive file classification and other capabilities to manage design and technical files. However, for a PDM such as Van Huben, these functions are the tools of the PDM user and the PDM user must enter or select the classification of the file to be stored or accessed as designated by the PDM user. In a PDM, the PDM user decides what to do. The PDM does not direct the PDM user to process a specific file in a specific process as required by a workflow route step.

In addition, these PDM systems require the user to have extensive knowledge of both the PDM system user interfaces and specific classifying information related to the file. The PDM user must store the file in the appropriate library and directory, assign an appropriate classification and revision level, etc. as well as adhere to naming conventions. A file that is not stored appropriately may be "lost" and not recoverable. Similarly, the PDM user must have the same high level of skill and information to retrieve the file. PDM users are specifically trained to manage design documents and have titles like "Document Control", "Document Management", "Document Specialist", etc. The complexity of Van Huben specification should give the Examiner a sense of the level of skill required to store and fetch classified files in a PDM system. (Figures 2–5, Figures 8-10, and many other figures and text.) The prior art PDM as exemplified by Van Huben are designed for specially trained, highly skilled operators who understand the tasks of document control. The PDM functions do not direct the user to perform an attachment or download of a specified file classification.

For the present invention workflow, the user is directed to attach or download a file that conforms to the classification expected by the workflow step. The workflow designates the file classification and the attachment or download for each workflow step. In a workflow, the user is directed by the workflow step.

The functions of Van Huben do not provide the directed file classification and directed attachment or download and do not support or suggest the functions required for a workflow.

The present invention teaches the application of workflow to business processes where classified files are processed as described in the specification [0006] and illustrated in Figures 3B and 8. These business processes provide steps that are processes by users with skills different from the document control specialists who

administer the PDM or the process step may be automated where there are no PDM users to access or store the classified files. The workflow step directs the user or system to perform an upload or download operation on a file meeting the system specified classification. The present invention provides for the specification of the file classification and the indication for upload or download information for each step of the workflow route as described in [0030]-[0033]. This adds complexity to the workflow engine and route (Table 1 and [0030]-[0033]) but directs the attachment and downloading of workflow specified classified files by a user or system at the route step.

Neither Ghoneimy nor Van Huben nor any combination of these prior art functions provide a route directed workflow system with route steps that provide system directed file classification and system directed attachment or download of classified files.

2) Per claims 21, 28, and 36, Ghoneimy provides a route directed workflow system with route steps. However, Ghoneimy does not provide a set of classified file types, route steps with system specified file classification, or system specified attachment or download of the system specified classified file.

Van Huben teaches a user directed data management system with which the user can decide to enter or select a file classification and attach or download a file. Van Huben does not teach a system specified file classification or system specified attachment or download of the system specified classified file to direct a user or system in a workflow controlled process.

Neither Ghoneimy nor Van Huben teach a method for the controlled processing of classified file types by use of a route directed workflow.

Neither Ghoneimy nor Van Huben nor a combination teach or suggest the limitations of claims 21 and 28

3) Per claims 22 and 29, neither Ghoneimy nor Van Huben nor a combination teach the limitations of claims 21 and 28. Further, Ghoneimy does not teach a parent-child relationship between classified files. Ghoneimy teaches assigning a program to process a file based on the file extension. (pp [0122], [0130], [0134]) Van Huben and prior art PDM provide for user directed creation of a parent-child relationship between files (Figure 101) but do not teach a system directed parent-child relationship for classified files for a route step.

4) Per claims 23, 31, and 40, neither Ghoneimy nor Van Huben nor a combination teach the limitations of claims 21, 28, and 36. Further, Ghoneimy does not teach that classified files have the same name and be distinguishable. (pp [0122], [0130], [0134]). Ghoneimy teaches the use of an NT file system that does not permit duplicate file names within a file folder. (pp [0057]) Ghoneimy does not teach a means to distinguish files with the same name as illustrated in Table 1 of the present invention.

Van Huben and prior art PDM provide for files with the same name but with different classification be distinguishable (Figure 75). The classification is manually specified by the PDM user. Neither Ghoneimy nor Van Huben teaches

a system controlled function that distinguished between files with the same name. Neither Ghoneimy nor Van Huben teach the function illustrated in Table 1 of the present invention or any similar capability that provides for distinguishing files with the same name.

5) Per claims 24 and 32, neither Ghoneimy nor Van Huben nor a combination teach or suggest the limitations of claims 21 and 28. Van Huben teaches prior art program loops and does not teach anything related to route directed steps that loop. Van Huben (col. 43 lines 31-61) describes a user invoked PDM program process to cross reference files with problem fixes to relate design changes to problem fixes; (col. 115 lines 8-18) a user invoked PDM process to check the Done flags and parameter overrides; and (col. 117 lines 5-12) a user invoked PDM program process to determine files to be disposed of in the DMS and discards files with duplicate names. Van Huben does not teach the files in each iteration of the program loop be distinguishable. The cited paragraphs do not create files but simply process existing files. In fact, one citation discards files with duplicate names and cannot teach the distinguishing of files with the same name in separate loops. Van Huben provides for manual classification where the Revision level of a file can be manually incremented. Note that in practice, the Revision level of a file is incremented after a number of changes have been performed and the file and other associated files are in a consistent state. With the present invention, the incremental changes to files between Revision levels are also tracked by the workflow system. Neither Ghoneimy nor Van Huben teach the function illustrated in Table 1 of the present invention or any similar capability that provides for distinguishing files for each iteration.

6) Per claims 25, 33, 34, and 39, neither Ghoneimy nor Van Huben nor a combination teach or suggest the limitations of claims 21, 28, and 36. Ghoneimy teaches a conditional branch but not in a route or a step that processes classified files and directs the user to attach or download classified files.

7) Per claims 26 and 35, neither Ghoneimy nor Van Huben nor a combination teach or suggest the limitations of claims 21 and 28. Ghoneimy teaches a workflow development environment where forms and attachments can be accessed to develop a form, not in a route. (pp [0065]-[0079]) Ghoneimy does not teach file classification or the download of a file in a route step based on the file classification.

8) Per claims 27, 30, 37, and 38, neither Ghoneimy nor Van Huben nor a combination teach or suggest the limitations of claims 21, 28, and 36. Ghoneimy teaches a workflow development environment where forms and attachments can be accessed to develop a form, not in a step in a route. (pp [0065]-[0079]) Ghoneimy does not teach a parent-child file relationship or the download of a file in a route step based on the parent-child relationship.

Conclusion